

**REMARKS**

Claims 10-13 are now pending in the application. Claims 14 and 15 have been cancelled without prejudice or disclaimer.

The rejection of Claims 14 and 15 under 35 USC 103 (a) as being obvious over US Patent Publication No. US-2003-0139523-A1 to Nakamura et al. has been rendered moot by their cancellation without prejudice or disclaimer.

Claims 10-13 were rejected under 35 USC 103 (a) as being obvious over US Patent Publication No. US-2003-0139523-A1 to Nakamura et al. (hereinafter also referred to as "Nakamura") in view of US Patent Publication No. US-2003-0220437-A1 to Hopkins et al. (hereinafter also referred to as "Hopkins") and further in view of US Patent 4,748,168 to Kawakami et al. (hereinafter also referred to as "Kawakami").

The cited references do not render obvious claims 10-13.

As is clear from the disclosure of the present application and as recited in claims 10-13, important to the present invention is the use, in the tire tread rubber composition, of (i) the specified aromatic vinyl-conjugated diene copolymer rubber (A) having a Tg (i.e., TgA) of -40° to -5°C and the specified conjugated diene-based rubber gel (B), wherein the Tg of (B) (i.e., TgB) satisfy the relationship (1)

$$TgA - 10 < TgB < TgA + 10 \quad (1).$$

As a result, the wet performance, the abrasion resistance and the low heat buildup property are improved (see, the third aspect of the present invention in the specification). This is neither disclosed nor taught in the cited references, as will be discussed below.

US Patent Publication No. US-2003-0139523-A1 to Nakamura et al. suggests a conjugated diene rubber, a rubber composition containing the same and a process for producing the conjugated diene rubber.

However, as appreciated by the Examiner, Nakamura neither discloses nor teaches (a) the use of the aromatic vinyl-conjugated diene copolymer rubber (A) having a  $TgA$   $-40^{\circ}$  to  $-5^{\circ}$  and (b) the use of the conjugated diene-based rubber gel (B) having a  $TgB$  satisfying the following formula (1):

$$TgA - 10 < TgB < TgA + 10 \quad (1)$$

in the tire tread rubber composition according to the present invention.

As shown in the results on Tables III-2 and III-3, when only SBR-2 having a  $TgA$  of  $-50^{\circ}C$  is used as the component (A) (see Comp. Examples III-1 and III-4), the desired results cannot be obtained. In addition, when the rubber gel (B) is not used (see Comp. Example III-2) or when  $TgB$  is not within the range of  $TgA \pm 10^{\circ}C$  as in Comp. Examples III-1 and III-4, the desired results are not obtained. This is completely absent in Nakamura et al.

It is concluded in the Office Action that Hopkins teaches emulsion and solution polymerized SBR having a  $Tg$  above  $-50^{\circ}C$ . However, Hopkins neither discloses nor teaches the use of the above-specified SBR, in combination with the conjugated diene-based rubber gel (B) having the specified  $TgB$  satisfying the above relationship (1).

Kawakami suggests the use of the first group of styrene-butadiene copolymers with a  $Tg$  of  $-20^{\circ}C$  to  $-45^{\circ}C$  (i.e., styrene-rich SBR) and a second group of styrene-butadiene copolymers with a  $Tg$  of lower than  $-45^{\circ}C$  (i.e., styrene-poor SBR) (see column 2, lines 21-29). However, Kawakami neither discloses nor teaches the use of the SBR having such a  $Tg$ , in combination with the conjugated diene-based rubber gel (B) having the above-mentioned specified  $TgB$ .

As evidenced by the results of the enclosed Declaration under 37 CFR 1.132 by Naoya Amino, even when the two SBRs (not the rubber gel) having the specified  $TgA$  and  $TgB$  defined in the present invention are used, the desired results can not be obtained. Thus, the results obtainable by the present invention are by no means expected from the cited references by those skilled in the art. Consequently, it is clear that the present invention according to claims 10-13 is not rendered obvious by Nakamura, Hopkins and Kawakami.

The cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render the rejections under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 185 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727; 82 USPQ2d 1385 (2007), *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195 USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185, under Order No. 21713-00035-US1 from which the undersigned is authorized to draw.

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